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D. Devi

1600 Rust H

Errors Corrected by the STIC Systems Branch

Serial Number: 09/623,038

ENTERED

CRF Processing Date: 10/29/2002  
Edited by: [Signature]  
Verified by: [Signature] (STIC staff)

- ☐ Changed a file from non-ASCII to ASCII
- ☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.
- ☐ Edited a format error in the Current Application Data section, specifically: \_\_\_\_\_
- ☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other \_\_\_\_\_
- ☐ Added the mandatory heading and subheadings for "Current Application Data".
- ☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.
- ☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically: \_\_\_\_\_
- ☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: \_\_\_\_\_
- ☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: \_\_\_\_\_
- ☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.
- ☐ Inserted colons after headings/subheadings. Headings edited included: \_\_\_\_\_
- ☐ Deleted extra, invalid, headings used by an applicant, specifically: \_\_\_\_\_
- ☒ Deleted: ☐ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as \_\_\_\_\_
- ☐ Inserted mandatory headings, specifically: \_\_\_\_\_
- ☐ Corrected an obvious error in the response, specifically: \_\_\_\_\_
- ☐ Edited identifiers where upper case is used but lower case is required, or vice versa.
- ☐ Corrected an error in the Number of Sequences field, specifically: \_\_\_\_\_
- ☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.
- ☐ Deleted **ending** stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: \_\_\_\_\_
- ☐ Other: \_\_\_\_\_



1600

## RAW SEQUENCE LISTING

DATE: 10/29/2002

PATENT APPLICATION: US/09/623,038

TIME: 17:32:56

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\10292002\I623038.raw

```

4 <110> APPLICANT: Government of the United States as represented by the Secretary,
5     Department of Health and Human Services, c/o Centers for Disease
6     Control and Prevention
7     Carlone, George M.
8     Ades, Edwin W.
9     Sampson, Jacquelyn S.
10    Tharpe, Jean A.
11    Zeiler, Joan L.
12    Westerink, Maria Anna J.
13
15 <120> TITLE OF INVENTION: Epitope Peptides Immunogenic Against
16     Streptococcus Pneumoniae
17
19 <130> FILE REFERENCE: 14114.0343U2
20
21 <140> CURRENT APPLICATION NUMBER: 09/623,038
22
23 <141> CURRENT FILING DATE: 2000-11-27
24
25 <150> PRIOR APPLICATION NUMBER: PCT/US99/04326
26
27 <151> PRIOR FILING DATE: 1999-02-26
28
29 <150> PRIOR APPLICATION NUMBER: 60/076,565
30
31 <151> PRIOR FILING DATE: 1998-03-02
32
33 <160> NUMBER OF SEQ ID NOS: 8
34
35 <170> SOFTWARE: FastSEQ for Windows Version 4.0
36
37 <210> SEQ ID NO: 1
38
39 <211> LENGTH: 1330
40
41 <212> TYPE: DNA
42
43 <213> ORGANISM: Artificial Sequence
44
45 <220> FEATURE:
46
47 <223> OTHER INFORMATION: Description of Artificial Sequence; Note =
48     synthetic construct
49
50 W--> 43 <221> NAME/KEY: CDS
51
52 44 <222> LOCATION: (189)...(1115)
53
54 W--> 46 <400> 1
55
56 47 tactgcttca gttttgggac tctttattgg ctatagtttt aatgttgcgg caggttctag      60
57 48 tctcgtgctt acagctgcta gtttctttct cattagcttc tttatcgctc ccaaacaacg      120
58 49 atatttgaaa ctgaaaaata aacatttggt aaaataaggg gcaaagccct aataaattgg      180
59 50' aggatcta atg aaa aaa tta ggt aca tta ctc gtt ctc ttt ctt tct gca      230
60      Met Lys Lys Leu Gly Thr Leu Leu Val Leu Phe Leu Ser Ala
61      1             5             10
62 54 atc att ctt gta gca tgt gct agc gga aaa aaa gat aca act tct ggt      278
63 55 ile ile leu val ala cys ala ser gly lys lys asp thr thr ser gly
64 56 15             20             25             30
65 59 caa aaa cta aaa gtt gtt gct aca aac tca atc atc gct gat att act      326
66 60 Gln Lys Leu Lys Val Val Ala Thr Asn Ser Ile Ile Ala Asp Ile Thr
67 61             35             40             45
68 63 aaa aat att gct ggt gac aaa att gac ctt cat agt atc gtt ccg att      374

```

## RAW SEQUENCE LISTING

DATE: 10/29/2002

PATENT APPLICATION: US/09/623,038

TIME: 17:32:56

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\10292002\I623038.raw

64	Lys	Asn	Ile	Ala	Gly	Asp	Lys	Ile	Asp	Leu	His	Ser	Ile	Val	Pro	Ile	
65				50				55					60				
67	ggg	caa	gac	cca	cac	gaa	tac	gaa	cca	ctt	cct	gaa	gac	ggt	aag	aaa	422
68	Gly	Gln	Asp	Pro	His	Glu	Tyr	Glu	Pro	Leu	Pro	Glu	Asp	Val	Lys	Lys	
69			65					70					75				
71	act	tct	gag	gct	gat	ttg	att	ttc	tat	aac	ggt	atc	aac	ctt	gaa	aca	470
72	Thr	Ser	Glu	Ala	Asp	Leu	Ile	Phe	Tyr	Asn	Gly	Ile	Asn	Leu	Glu	Thr	
73		80					85					90					
75	ggt	ggc	aat	gct	tgg	ttt	aca	aaa	ttg	gta	gaa	aat	gcc	aag	aaa	act	518
76	Gly	Gly	Asn	Ala	Trp	Phe	Thr	Lys	Leu	Val	Glu	Asn	Ala	Lys	Lys	Thr	
77	95					100				105					110		
79	gaa	aac	aaa	gac	tac	ttc	gca	gtc	agc	gac	ggc	ggt	gat	ggt	atc	tac	566
80	Glu	Asn	Lys	Asp	Tyr	Phe	Ala	Val	Ser	Asp	Gly	Val	Asp	Val	Ile	Tyr	
81				115						120				125			
83	ctt	gaa	ggt	caa	aat	gaa	aaa	gga	aaa	gaa	gac	cca	cac	gct	tgg	ctt	614
84	Leu	Glu	Gly	Gln	Asn	Glu	Lys	Gly	Lys	Glu	Asp	Pro	His	Ala	Trp	Leu	
85			130					135				140					
87	aac	ctt	gaa	aac	ggt	att	att	ttt	gct	aaa	aat	atc	gcc	aaa	caa	ttg	662
88	Asn	Leu	Glu	Asn	Gly	Ile	Ile	Phe	Ala	Lys	Asn	Ile	Ala	Lys	Gln	Leu	
89			145					150				155					
91	agc	gcc	aaa	gac	cct	aac	aat	aaa	gaa	ttc	tat	gaa	aaa	aat	ctc	aaa	710
92	Ser	Ala	Lys	Asp	Pro	Asn	Asn	Lys	Glu	Phe	Tyr	Glu	Lys	Asn	Leu	Lys	
93		160				165					170						
95	gaa	tat	act	gat	aag	tta	gac	aaa	ctt	gat	aaa	gaa	agt	aag	gat	aaa	758
96	Glu	Tyr	Thr	Asp	Lys	Leu	Asp	Lys	Leu	Asp	Lys	Glu	Ser	Lys	Asp	Lys	
97	175					180				185				190			
99	ttt	aat	aag	atc	cct	gct	gaa	aag	aaa	ctc	att	gta	acc	agc	gaa	gga	806
100	Phe	Asn	Lys	Ile	Pro	Ala	Glu	Lys	Lys	Leu	Ile	Val	Thr	Ser	Glu	Gly	
101				195					200				205				
103	gca	ttc	aaa	tac	ttc	tct	aaa	gcc	tat	ggt	gtc	cca	agt	gcc	tac	atc	854
104	Ala	Phe	Lys	Tyr	Phe	Ser	Lys	Ala	Tyr	Gly	Val	Pro	Ser	Ala	Tyr	Ile	
105			210					215				220					
107	tgg	gaa	atc	aat	act	gaa	gaa	gaa	gga	act	cct	gaa	caa	atc	aag	acc	902
108	Trp	Glu	Ile	Asn	Thr	Glu	Glu	Glu	Gly	Thr	Pro	Glu	Gln	Ile	Lys	Thr	
109		225					230				235						
111	ttg	ggt	gaa	aaa	ctt	cgc	caa	aca	aaa	ggt	cca	tca	ctc	ttt	gta	gaa	950
112	Leu	Val	Glu	Lys	Leu	Arg	Gln	Thr	Lys	Val	Pro	Ser	Leu	Phe	Val	Glu	
113		240				245					250						
117	tca	agt	gtg	gat	gac	cgt	cca	atg	aaa	act	ggt	tct	caa	gac	aca	aac	998
118	Ser	Ser	Val	Asp	Asp	Arg	Pro	Met	Lys	Thr	Val	Ser	Gln	Asp	Thr	Asn	
119	255				260					265				270			
121	atc	cca	atc	tac	gca	caa	atc	ttt	act	gac	tct	atc	gca	gaa	caa	ggt	1046
122	Ile	Pro	Ile	Tyr	Ala	Gln	Ile	Phe	Thr	Asp	Ser	Ile	Ala	Glu	Gln	Gly	
123				275				280				285					
125	aaa	gaa	ggc	gac	agc	tac	tac	agc	atg	atg	aaa	tac	aac	ctt	gac	aag	1094
126	Lys	Glu	Gly	Asp	Ser	Tyr	Tyr	Ser	Met	Met	Lys	Tyr	Asn	Leu	Asp	Lys	
127			290					295				300					
129	att	gct	gaa	gga	ttg	gca	aaa	taagcctctg	aaaaacgtca	ttctcatgtg							1145
130	Ile	Ala	Glu	Gly	Leu	Ala	Lys										

## RAW SEQUENCE LISTING

DATE: 10/29/2002

PATENT APPLICATION: US/09/623,038

TIME: 17:32:56

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\10292002\I623038.raw

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131          305
133 agctggcggtt ttttctatgc ccacatttcc ggtcaaataca ttggaaaatt ctgactgttt 1205
134 cagatacaat ggaagaaaaa agattggagt atcctatggg aacttttctc ggaaatcctg 1265
135 tgagcttttac aggtaaacaa ctacaagtcg gcgacaaggc gcttgatttt tctcttacta 1325
136 caaca 1330
138 <210> SEQ ID NO: 2
139 <211> LENGTH: 309
140 <212> TYPE: PRT
141 <213> ORGANISM: Artificial Sequence
143 <220> FEATURE:
144 <223> OTHER INFORMATION: Description of Artificial Sequence; Note =
145     synthetic construct
147 <400> SEQUENCE: 2
148 Met Lys Lys Leu Gly Thr Leu Leu Val Leu Phe Leu Ser Ala Ile Ile
149 1          5          10          15
150 Leu Val Ala Cys Ala Ser Gly Lys Lys Asp Thr Thr Ser Gly Gln Lys
151          20          25          30
152 Leu Lys Val Val Ala Thr Asn Ser Ile Ile Ala Asp Ile Thr Lys Asn
153          35          40          45
154 Ile Ala Gly Asp Lys Ile Asp Leu His Ser Ile Val Pro Ile Gly Gln
155          50          55          60
156 Asp Pro His Glu Tyr Glu Pro Leu Pro Glu Asp Val Lys Lys Thr Ser
157 65          70          75          80
158 Glu Ala Asp Leu Ile Phe Tyr Asn Gly Ile Asn Leu Glu Thr Gly Gly
159          85          90          95
160 Asn Ala Trp Phe Thr Lys Leu Val Glu Asn Ala Lys Lys Thr Glu Asn
161          100         105         110
162 Lys Asp Tyr Phe Ala Val Ser Asp Gly Val Asp Val Ile Tyr Leu Glu
163          115         120         125
164 Gly Gln Asn Glu Lys Gly Lys Glu Asp Pro His Ala Trp Leu Asn Leu
165          130         135         140
166 Glu Asn Gly Ile Ile Phe Ala Lys Asn Ile Ala Lys Gln Leu Ser Ala
167 145         150         155         160
168 Lys Asp Pro Asn Asn Lys Glu Phe Tyr Glu Lys Asn Leu Lys Glu Tyr
169          165         170         175
171 Thr Asp Lys Leu Asp Lys Leu Asp Lys Glu Ser Lys Asp Lys Phe Asn
172          180         185         190
173 Lys Ile Pro Ala Glu Lys Lys Leu Ile Val Thr Ser Glu Gly Ala Phe
174          195         200         205
175 Lys Tyr Phe Ser Lys Ala Tyr Gly Val Pro Ser Ala Tyr Ile Trp Glu
176          210         215         220
177 Ile Asn Thr Glu Glu Glu Gly Thr Pro Glu Gln Ile Lys Thr Leu Val
178 225         230         235         240
179 Glu Lys Leu Arg Gln Thr Lys Val Pro Ser Leu Phe Val Glu Ser Ser
180          245         250         255
181 Val Asp Asp Arg Pro Met Lys Thr Val Ser Gln Asp Thr Asn Ile Pro
182          260         265         270
183 Ile Tyr Ala Gln Ile Phe Thr Asp Ser Ile Ala Glu Gln Gly Lys Glu
184          275         280         285

```

## RAW SEQUENCE LISTING

DATE: 10/29/2002

PATENT APPLICATION: US/09/623,038

TIME: 17:32:56

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\10292002\I623038.raw

```

185 Gly Asp Ser Tyr Tyr Ser Met Met Lys Tyr Asn Leu Asp Lys Ile Ala
186      290                      295                      300
187 Glu Gly Leu Ala Lys
188 305
190 <210> SEQ ID NO: 3
191 <211> LENGTH: 21
192 <212> TYPE: DNA
193 <213> ORGANISM: Artificial Sequence
195 <220> FEATURE:
196 <223> OTHER INFORMATION: Description of Artificial Sequence; Note =
197     synthetic construct
199 <400> SEQUENCE: 3
200 aggatcctaag gaaaaaatta g                                21
202 <210> SEQ ID NO: 4
203 <211> LENGTH: 21
204 <212> TYPE: DNA
205 <213> ORGANISM: Artificial Sequence
207 <220> FEATURE:
208 <223> OTHER INFORMATION: Description of Artificial Sequence; Note =
209     synthetic construct
211 <400> SEQUENCE: 4
212 tcagaggcctt attttgccaa t                                21
214 <210> SEQ ID NO: 5
215 <211> LENGTH: 15
216 <212> TYPE: PRT
217 <213> ORGANISM: Artificial Sequence
219 <220> FEATURE:
220 <223> OTHER INFORMATION: Description of Artificial Sequence; Note =
221     synthetic construct
223 <400> SEQUENCE: 5
224 Thr Val Ser Arg Val Pro Trp Thr Ala Trp Ala Phe His Gly Tyr
225 1          5          10          15
227 <210> SEQ ID NO: 6
228 <211> LENGTH: 15
230 <212> TYPE: PRT
231 <213> ORGANISM: Artificial Sequence
233 <220> FEATURE:
234 <223> OTHER INFORMATION: Description of Artificial Sequence; Note =
235     synthetic construct
237 <400> SEQUENCE: 6
238 Arg Ser Tyr Gln His Asp Leu Arg Ala Tyr Gly Phe Trp Arg Leu
239 1          5          10          15
241 <210> SEQ ID NO: 7
242 <211> LENGTH: 15
243 <212> TYPE: PRT
244 <213> ORGANISM: Artificial Sequence
246 <220> FEATURE:
247 <223> OTHER INFORMATION: Description of Artificial Sequence; Note =
248     synthetic construct

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## RAW SEQUENCE LISTING

DATE: 10/29/2002

PATENT APPLICATION: US/09/623,038

TIME: 17:32:56

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\10292002\I623038.raw

250 &lt;400&gt; SEQUENCE: 7

251 Leu Val Arg Arg Phe Val His Arg Arg Pro His Val Glu Ser Gln

252 1 5 10 15

254 &lt;210&gt; SEQ ID NO: 8

255 &lt;211&gt; LENGTH: 15

256 &lt;212&gt; TYPE: PRT

257 &lt;213&gt; ORGANISM: Artificial Sequence

259 &lt;220&gt; FEATURE:

260 &lt;223&gt; OTHER INFORMATION: Description of Artificial Sequence; Note =

261 synthetic construct

263 &lt;400&gt; SEQUENCE: 8

264 Leu Val Arg Arg Phe Val His His Arg Pro His Val Glu Ser Gln

265 1 5 10 15

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/623,038

DATE: 10/29/2002

TIME: 17:32:57

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\10292002\I623038.raw

L:43 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!

L:46 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1





1600

## RAW SEQUENCE LISTING

DATE: 10/29/2002

PATENT APPLICATION: US/09/623,038

TIME: 16:03:21

Input Set : A:\EP.txt

Output Set: N:\CRF4\10292002\I623038.raw

**Does Not Comply  
Corrected Diskette Needed**

4 <110> APPLICANT: Government of the United States as represented by the Secretary,  
 5 Department of Health and Human Services, c/o Centers for Disease  
 6 Control and Prevention  
 8 Carlone, George M.  
 9 Ades, Edwin W.  
 10 Sampson, Jacquelyn S.  
 11 Tharpe, Jean A.  
 12 Zeiler, Joan L.  
 13 Westerink, Maria Anna J.  
 15 <120> TITLE OF INVENTION: Epitope Peptides Immunogenic Against  
 16 Streptococcus Pneumoniae  
 19 <130> FILE REFERENCE: 14114.0343U2  
 21 <140> CURRENT APPLICATION NUMBER: 09/623,038  
 C--> 22 <141> CURRENT FILING DATE: 2002-11-27  
 24 <150> PRIOR APPLICATION NUMBER: PCT/US99/04326  
 25 <151> PRIOR FILING DATE: 1999-02-26  
 27 <150> PRIOR APPLICATION NUMBER: 60/076,565  
 28 <151> PRIOR FILING DATE: 1998-03-02  
 30 <160> NUMBER OF SEQ ID NOS: 8  
 32 <170> SOFTWARE: FastSEQ for Windows Version 4.0

## ERRORED SEQUENCES

254 <210> SEQ ID NO: 8  
 255 <211> LENGTH: 15  
 256 <212> TYPE: PRT  
 257 <213> ORGANISM: Artificial Sequence  
 259 <220> FEATURE:  
 260 <223> OTHER INFORMATION: Description of Artificial Sequence; Note =  
 261 synthetic construct  
 263 <400> SEQUENCE: 8  
 264 Leu Val Arg Arg Phe Val His His Arg Pro His Val Glu Ser Gln  
 265 1 5 10 15  
 E--> 267 5

## VERIFICATION SUMMARY

DATE: 10/29/2002

PATENT APPLICATION: US/09/623,038

TIME: 16:03:22

Input Set : A:\EP.txt

Output Set: N:\CRF4\10292002\I623038.raw

L:22 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:43 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:46 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1  
L:267 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:8